

WHAT PRICE WATER QUALITY?

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SPEECH BY
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My topic today is "What Price Water Quality?". Another perspective on the subject might be "What Price Public Health?" If there were simple answers to either of these questions, they would not be under consideration at your annual convention. It is our lot--yours and mine--to grapple with such knotty problems as economic impact, the assessment of the health risk of lifetime exposure to carcinogenic and mutagenic material, cost/benefit analysis, technological feasibility, and so on. Therefore, it is indeed appropriate that we address this particular topic as your Association gathers together in the early summer of 1978.

It is appropriate because we meet during the period of public comment on EPA's proposed regulations to control organic contaminants in drinking water. One of the issues under consideration is the cost involved in implementing these proposals. So, what price water quality? Unfortunately, the

debate thus far has not always been enlightening, helpful, or factual. EPA is earnestly seeking serious discussion of the issues. If our approaches are unreasonable or unworkable, we want to know why. We solicit alternatives or modifications. We invite you, during this Convention, to take a fresh look at our proposals, with an eye on the opportunity you have during the remainder of the public comment period to submit additional recommendations and comments.

As my contribution to the discussion, I'd like to review EPA's overall strategy for the control of hazardous materials in the environment--for it goes far beyond drinking water standards and is part of the price we pay for water quality. I shall also review, briefly, the salient points of our proposed organics regulation, for it has been subject to some misunderstanding. I shall discuss some of the major comments we have received thus far on the proposed regulations. And, finally, I shall comment on the counter-proposals submitted to us by the American Water Works Association.

First, the EPA strategy. It would be a gross error to look upon the proposed drinking water regulation as an isolated attack on the problem of organics. Water suppliers have not been singled out as the focal point of our concern. The contamination of the environment by synthetic chemical

compounds is a fact of such overwhelming proportions that it must be dealt with on every possible front. No informed observer can believe that the tens of thousands of such compounds, which are generated in so many ways in such staggering volumes, do not constitute a threat to the environment and the public health. They find their way into our food supplies, our water resources, and the air we breathe. The problem grows with every passing year, outstripping our ability to assess the health implications of each new arrival. In the scientific and health communities, however, there is no doubt that this phenomenon is a factor in that part of the national cancer rate that can be attributed to environmental causes.

EPA's response to the problem is to address it on a broad front, integrating the various authorities and mandates given us by the Congress. The strategy includes, first, controlling the entry of new hazardous materials into the marketplace. Here we shall draw on the new Toxic Substances Control Act and the Federal Insecticide, Rodenticide, and Fungicide Act. Both pieces of legislation are important because they are basically precautionary statutes, providing restraints before hazardous materials are put into use and released into the environment.

Second, you will see EPA exercising tighter control of

the sources of contamination through the air and water pollution programs. The hazardous waste sections of the Resource Conservation and Recovery Act, which we are now moving to implement, provide additional tools in this area.

The final barrier of defense against waterborne threats to health is, of course, the water treatment plant. There we must be prepared to deal with a broad range of suspect contaminants because of the widespread occurrence of spills, agricultural and urban run-off, leaching of impoundments, and lapses in all the other controls mentioned above.

Given the important role of water treatment plants to reduce human exposure to harmful organic chemicals, what did EPA propose? The proposed regulation has really a very simple structure. It recognizes that there are two main sources of harmful organic chemical contamination in drinking water and it approaches each problem in a different way.

First, there is a family of contaminants called trihalomethanes (THMs), which are generated as a by-product of conventional chlorination practices. The chlorine interacts with naturally occurring humic matter and produces synthetic compounds, including chloroform, which are known to cause cancer in animals. To combat this widespread problem, we have proposed a Maximum Contaminant Level, 100 micrograms per liter.

We leave it to the utility to determine the most efficient and cost-effective method of control and we have allowed 18 months after promulgation for the MCL to become effective.

The second source of contamination is pollution from discharges and agricultural and urban runoff. Rather than specify hundreds of compounds for analysis and removal, we have proposed a particular treatment technique that will be effective against a broad spectrum of chemicals of concern. The use of this treatment technique - granular activated carbon - would be required only in those cities with identifiable problems of raw water contamination. Those who are affected will have a five-year period in which to achieve full operation. Note that EPA proposes to cover a limited number of cities and to approach implementation over a period of time, based on pilot studies at each impacted plant.

Those two provisions are the heart of the matter; a Maximum Contaminant Level for trihalomethanes and a mandatory treatment technique for cities with serious raw water pollution problems. Both apply to cities over 75,000 initially, and would probably result in major changes in about 50 to 75 cities. Over time, as experience is gained, EPA would expect to broaden the coverage to smaller communities.

I'll be getting back to this proposed regulation in a few moments when I report on the objections to it that have been raised. Before that, let us pause to consider why EPA is doing this. Why are we moving ahead with this regulation? The answer can be reduced to a single statement: we are convinced that the health effects data and the requirements of the law give us no choice but to act. In no way does this mean that the proposed regulation is beyond change. I am merely emphasizing that, for the Agency, the question is not whether or not to regulate organics; it is how to do so reasonably and effectively.

EPA's reasoning concerning the assessment of health effects and health risks follows the accepted principles of other health and scientific agencies here and abroad. Dr. Arthur C. Upton, Director of the National Cancer Institute, articulated these principles succinctly when he wrote to EPA:

- "... 1. Chemicals which have been shown to cause cancers in animal studies are commonly found in drinking water in small amounts.
2. Some known human carcinogens have been found in drinking water.

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- "... 1. Chemicals which have been shown to cause cancers in animal studies are commonly found in drinking water in small amounts.
2. Some known human carcinogens have been found in drinking water.

3. Exposure to even very small amounts of carcinogenic chemicals poses some risk and repeated exposure amplifies the risk"

After studying the health basis for our proposed regulation, Dr. Upton supported the judgement that the organic chemicals in question "present a potential risk of cancer that should be reduced to the extent feasible."

Similar positions have been taken by the National Institute of Environmental Health Sciences and the National Academy of Sciences. And I mention the latter in particular because its Congressionally-mandated report on Drinking Water and Health has been misunderstood in some circles as not supportive of our action, when in fact it is.

The crucial point is that the burden of the health data clearly triggers the Agency's response within the Safe Drinking Water Act's legislative mandate. This was confirmed by the Judicial Branch when the U.S. Court of Appeals for the District of Columbia ruled:

"... In light of the clear language of the legislative history, the incomplete state of our knowledge regarding the health effects of certain contaminants and the imperfect nature of the available measurement and treatment techniques

cannot serve as justification for delay in controlling contaminants that may be harmful."

That ruling was made in a suit taking EPA to task for not regulating organic contaminants in the original Interim Primary Drinking Water Regulations that were promulgated in December, 1975. That's why I say that it is not a question of whether or not to take action, but how.

No one in this audience, after reviewing the data on samples drawn from contaminated water supplies, could feel really comfortable about his consumer ingesting such concentrations of chemical compounds.

The published regulations are only proposed. We have been looking for comments that will help to improve our approach.

What have the most frequent comments been to date? There are four common themes:

One: The health effects data are not a sufficient basis for action.

As I've mentioned, we believe that the mainstream of the scientific community and the Courts reviewing our authority think otherwise. Meanwhile, we are reviewing the many comments to this effect, searching for data and/or a rationale more persuasive and authoritative than the principles and positions expoused by some of the chief public health officials

in the Nation, including the NCI, NIEHS, and NAS.

Two: EPA's estimated costs of using GAC are grossly underestimated.

In response to frequent comments along these lines, we have reassessed our cost estimates and found that our projection of \$6 to \$10 per residential customer per year should probably be raised to \$10 to \$20 per residential customer per year in the affected cities. We also reviewed the cost data submitted by certain cities; they often projected costs many times higher than our own figures. The difference may be explained in part by the varying assumptions used in constructing the estimates. Therefore, it is likely that the exact magnitude of the costs will be determined only when the necessary monitoring and pilot studies have been completed. Meanwhile our revised estimates will be made available in a few days for additional public comment through the Federal Register and we will extend the public comment period through the end of August, 1978.

Three: The regulations should not be promulgated because of their secondary effects on energy consumption and air pollution.

Both possibilities have been investigated and the results will be made available to you. The upshot is that neither seems to be a major factor of concern, although we

are still receptive to additional data.

Four: There are risks and possible bad side-effects in the use of granular activated carbon.

Again, the literature was researched and a report has been developed that establishes such concerns as negligible.

The papers I have mentioned will be published in the Federal Register for review and comment and are a visible response by the Agency to many of the concerns voiced so far in what has been a spirited public comment period. Copies of the White Paper are being printed and I invite you to visit the EPA exhibit and add your name to the mailing list. The paper contains far more detail than I have provided in these abbreviated remarks.

Now let us turn to the particular proposals and comments submitted by your own organization, AWWA. My remarks are not intended to be the official and final response of EPA; that will come in due time after the public comment period, when all the testimony and written comments will be thoroughly studied by a team of specialists. But I hope it will be useful in the interim to have an indication of how some of us are thinking so that, once again, you can avail yourselves of the opportunity to submit additional data and recommendations.

AWWA urges more research on the health effects of trace

organics in drinking water. We agree wholeheartedly. More research is desperately needed. The need for long-range studies is incontrovertible and we are continuing to invest as much of our resources as we can in this effort. However, under the conditions laid down by the Congress, the presently available data constitutes a reasonable basis for action. Long term epidemiological studies take years to complete--perhaps decades. That seems to us to be too long a period in which to risk continued exposure of millions of Americans. Short of someone winning a Nobel prize for discovering the specific causes of cancer, we do not expect a major breakthrough in the next few years in our ability to assess the specific magnitude of the health risk posed by repeated injections of trace organics. Therefore it seems wise to begin to reduce human exposure now, while also moving forward in research.

AWWA believes there should be no regulation requiring granular activated carbon as a treatment technique. The use of a treatment technique was provided by the Congress as an alternative to setting a Maximum Contaminant Level. Its intention was to provide for precisely the sort of situation we are in now. Even if we could set a Maximum Contaminant Level for large numbers of specific chemical compounds, would utilities want to monitor and analyze for that many individual contaminants? The volume of analysis would exceed our fondest hopes for laboratory capacity; the paperwork would seriously

burden you, and us as well; the public notification requirements would be staggering, and finally, how would you get the organics out of the water? What treatment technique would be used? We have proposed granular activated carbon on vulnerable systems because it is effective against a broad spectrum of organics. But we are not exclusively mandating it. If you can achieve the same results with an alternative process, the regulation allows you to do so. In short, a prescribed treatment technique seems to us to be the simplest and most feasible solution available--precisely what the statute called for.

When AWWA recommended that there be no GAC requirement, it went on to suggest four full-scale plant demonstrations. Had EPA a budget that permitted this when the Safe Drinking Water Act was passed, it would have been a useful investment. Regretably, we did not and we still don't. Time is against us. Six to eight years or more would pass before such demonstrations would produce the studies and reports envisioned. If we were to wait until then to launch the process now proposed, it would be beyond 1990 before the other affected cities would have their carbon beds or columns in operation. We believe the present situation does not warrant that delay.

We also believe there is enough experience with Granular Activated Carbon for us to draw upon now. Data is being developed at an increasing rate in the pilot demonstrations

already underway in Cincinnati, Passaic Valley, Jefferson Parish and Manchester, including carbon filter beds in place, full-size post contactors and full-size furnaces. Meaningful data on costs and operations will be coming in time to be helpful to other systems conducting pilot studies. Several other studies are also being planned and additional data will be forthcoming.

Concerning the MCL for THM's, AWWA proposed that it be a goal, not a standard. We do not believe we have that option under the law. As I discussed above, Congress laid out the conditions for regulatory action and they have been met. Additionally, honesty compels us to admit that goals without teeth are rarely achieved. Think of auto emissions, waste discharges, the 55 mph speed limit, equal employment opportunity, consumer protection programs. Would there really be progress in these areas without sanctions? Even with the good will and good intentions of water suppliers, it would be unrealistic to believe that a THM goal would be voluntarily met.

Next, the AWWA proposal that all utilities be required to monitor for trihalomethanes. The intention behind this recommendation is admirable. It is ultimately aimed at reducing the exposure of even larger numbers of people than will initially be reached by the proposed regulations. Before we

accept this recommendation, however, we must ask ourselves whether or not the Nation has the laboratory capacity to handle this volume of analysis and how long it would take to develop. What would the cost impact be for small systems? And keep in mind that if smaller systems were placed under the regulation, the Public Notification requirement cannot be avoided. It is a statutory requirement. Although the matter of monitoring requirements is still under consideration, our initial thought was a phased approach to coverage, based on system size. Further comment on this issue will be appreciated.

Finally, AWWA suggests that EPA bear the cost of monitoring for synthetic compounds. In your proposed program, EPA would conduct some monitoring in localities not covered by the regulations. We are also working on laboratory methods to improve and simplify the analytical processes while strengthening quality assurance. However, the basic issue was decided by the Congress when it clearly provided that analytical costs were to be born by the supplier. That leaves us with little choice in the matter.

In the interest of brevity, I have simplified your recommendations and our response. The obvious risk is that I cannot possibly satisfy every nuance and dimension of your concerns in so short a time. But I'm sure you appreciate that

limitation and recognize that I am trying to move our dialogue forward. That leads us to the final question: Where do we go from here?

I think it would help if the spirit and tone of our discussions were to change during the remainder of the public comment period. We have fallen into the mode and rhetoric of confrontation, of adversaries, and that is not the most productive atmosphere for people who must work together. I assure you that the deep feelings and concerns of many in the water supply industry have impressed EPA. Your message has gotten through to us.

But in the time remaining for public comment, it would be helpful if the message went beyond concerns and dealt with specific alternatives. I encourage you to read the White Paper I mentioned earlier and, if you haven't already done so, the text of the proposed regulation and its supporting documentation. Use the upcoming Public Hearing in Washington and the remainder of the public comment period to submit suggested modifications and alternative approaches. EPA wants the final regulation to be workable. The more effort you invest in helping to shape our procedures and requirements, the better the final product.

The final thought I want to leave with you is this: supplying safe drinking water to all Americans is a shared

responsibility. It is not a matter of Congress legislating, EPA and the States regulating, and utilities complying. Each of us has a role: government and industry, science and technology, and not least of all, the citizen--the water-consuming taxpayer. I know I speak for Doug Costle, Vic Kimm and for all at EPA who are involved in drinking water when I say that we look forward to cooperating closely with you, year after year, as we move into a new era for the water supply industry of the United States.

